



# The Status of the Oyster Fishery in Galveston Bay



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Department

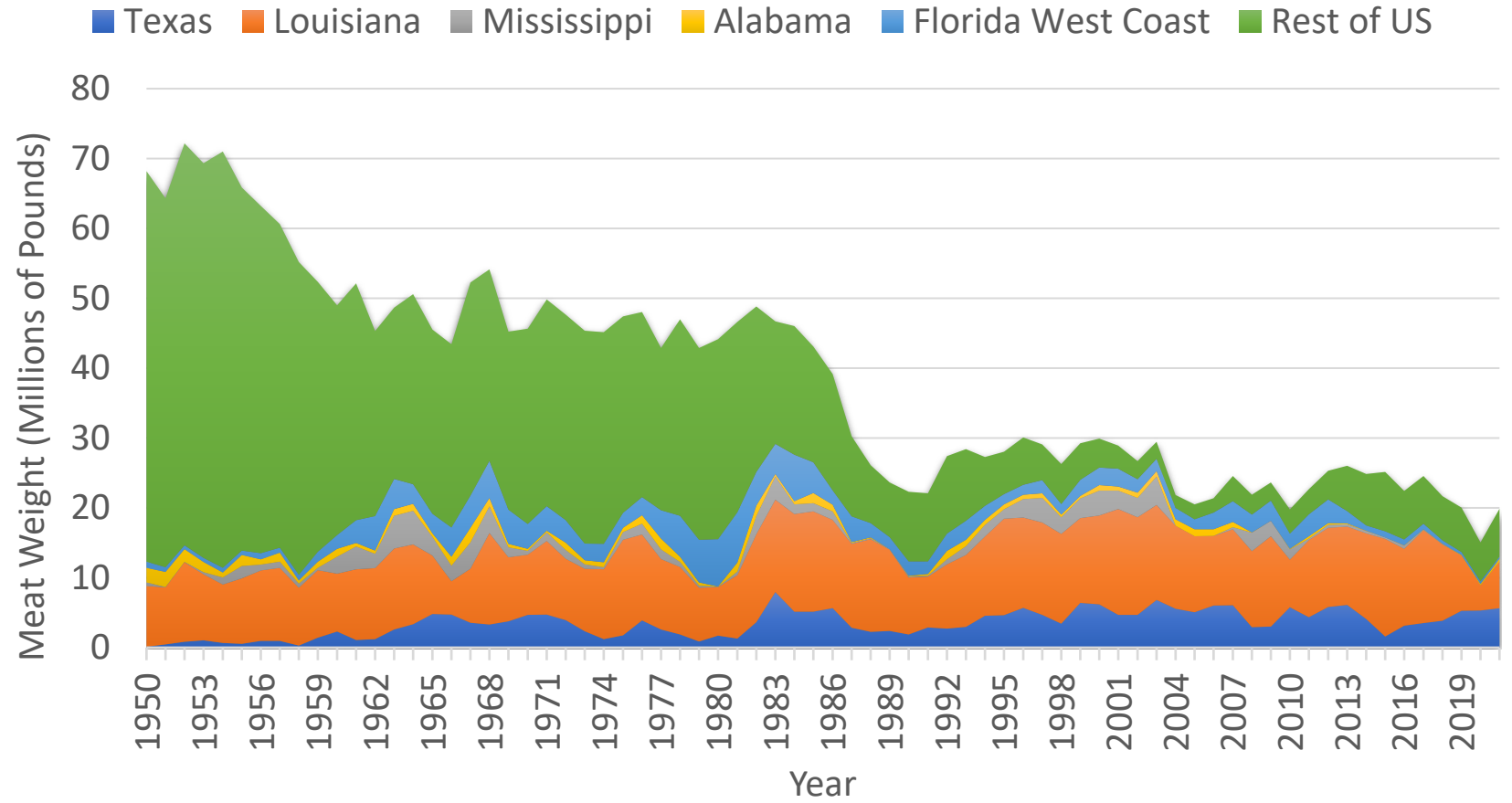
# Oyster-Producing Bays in Texas



# U.S. Commercial Eastern Oyster Landings

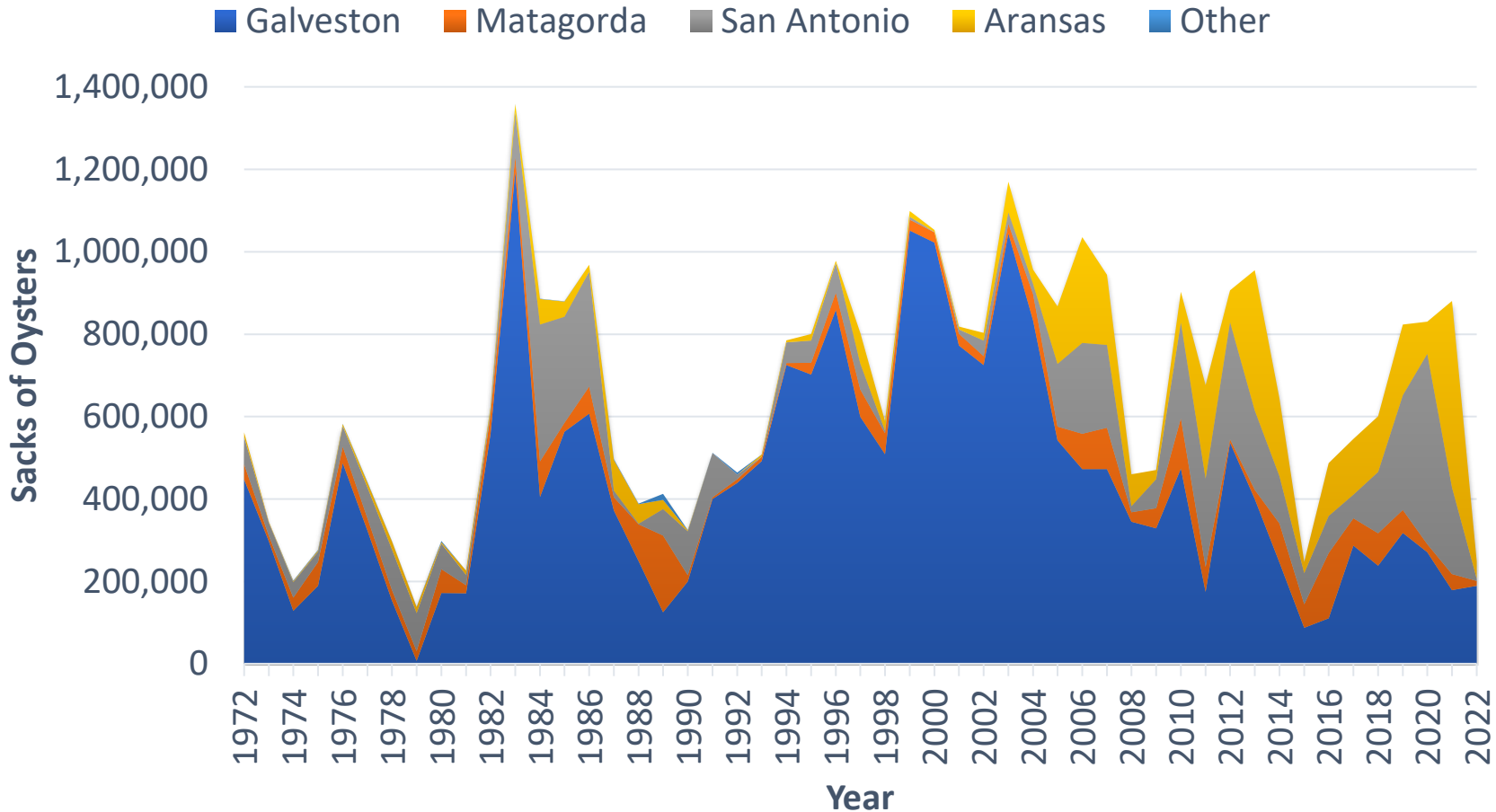
## Texas avg - last 10 years:

- 21% of US
- 30% of Gulf
- 4.4 million lb
- \$22.9 million dockside value



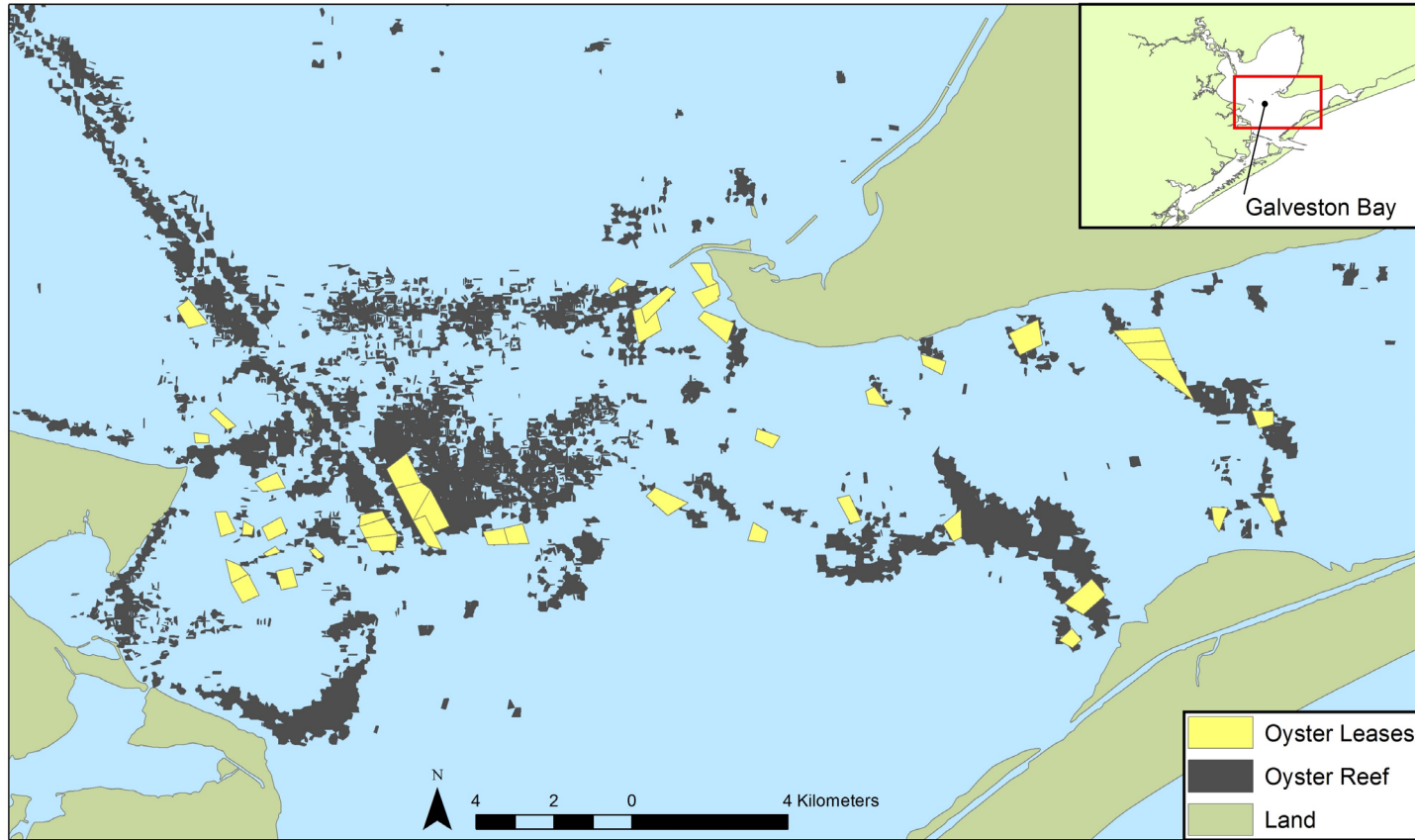


# Texas Commercial Oyster Landings



- Galveston Bay makes up majority of landings
- Historically 71%
- Last 10 years 42%
- Increase in harvest from southern bays





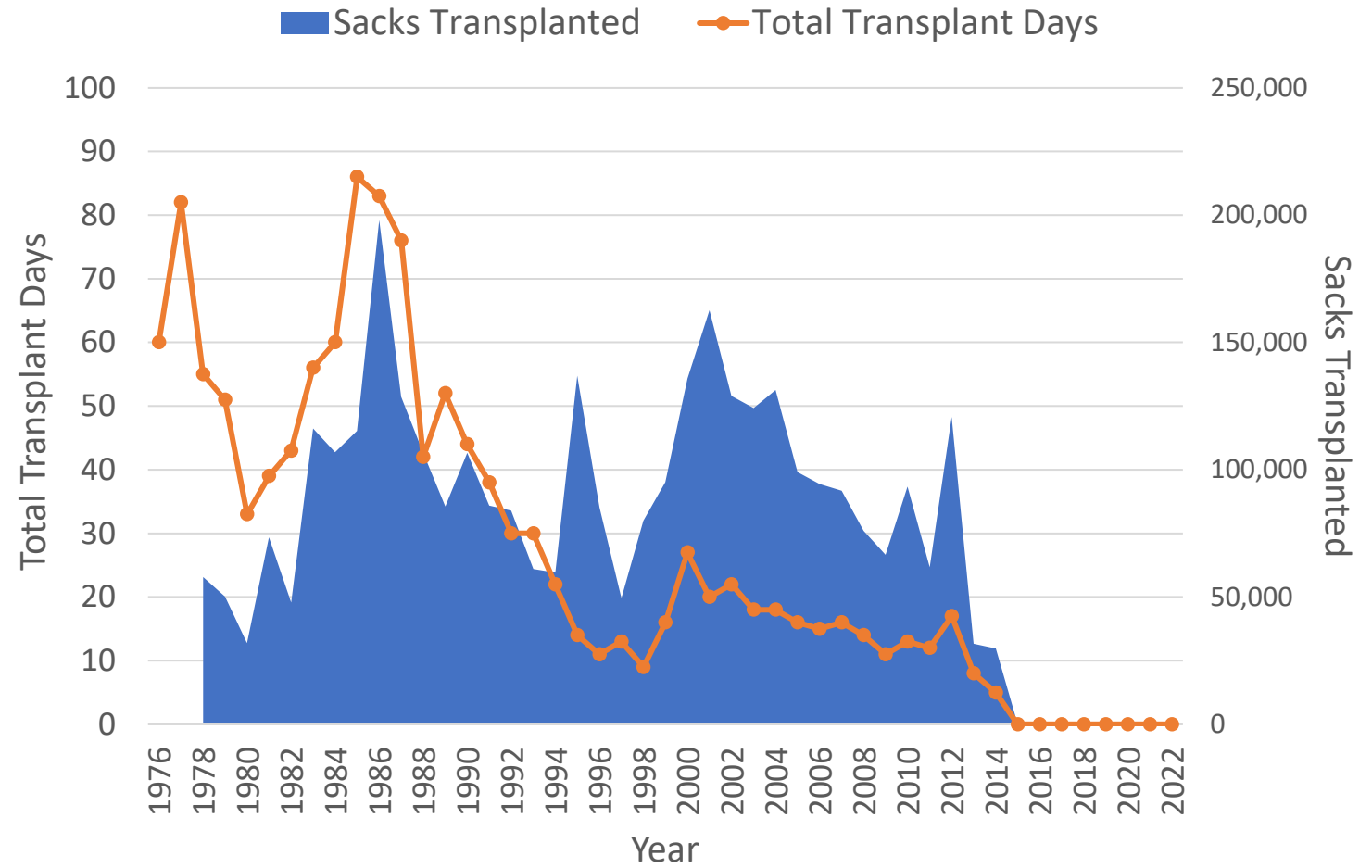
## Certificates of Location (a.k.a. Leases)

- Currently:
  - 43 locations
  - 2,322 acres
  - All in Galveston Bay

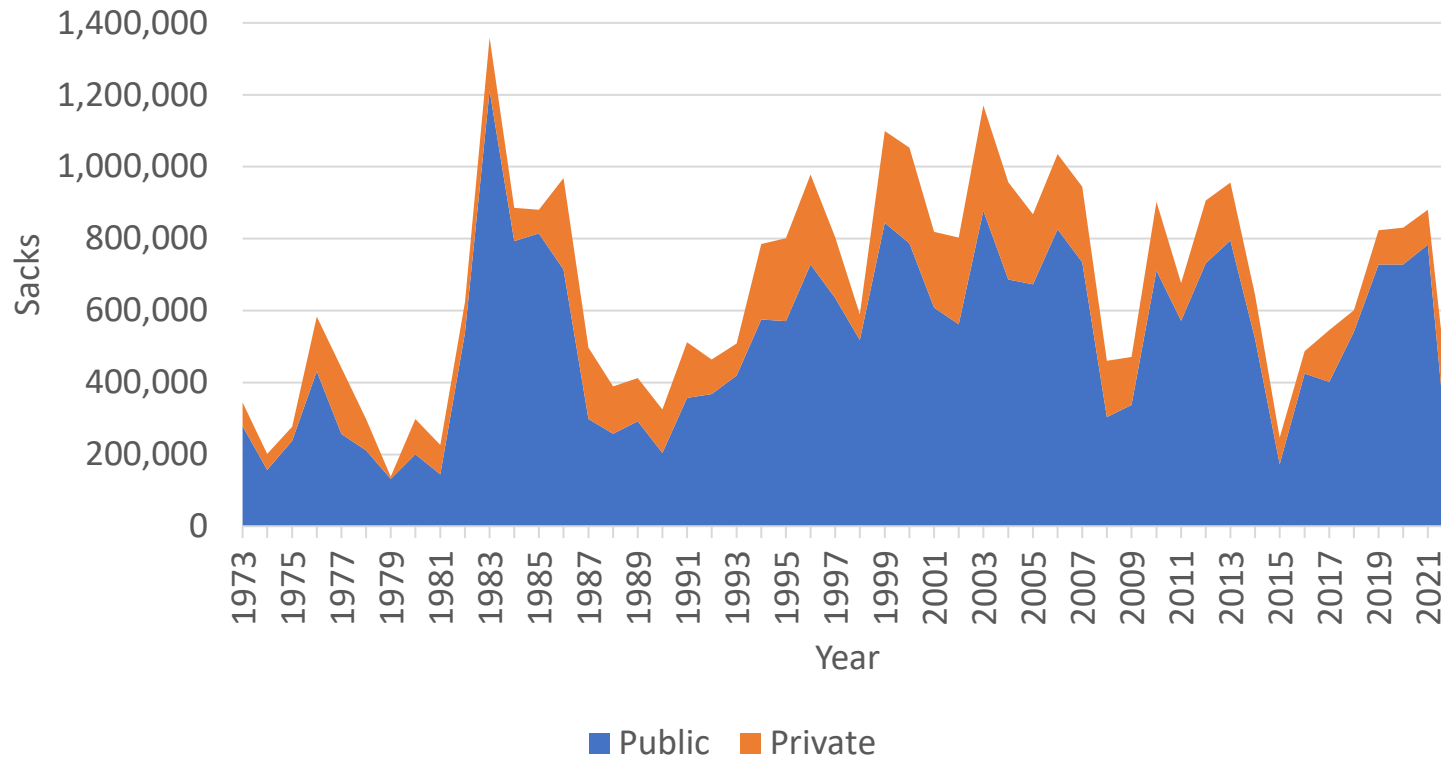
### Original Objectives:

- Reduce illegal harvest in restricted waters and protect public health
- Opportunity to harvest reefs in restricted areas

# Transplants



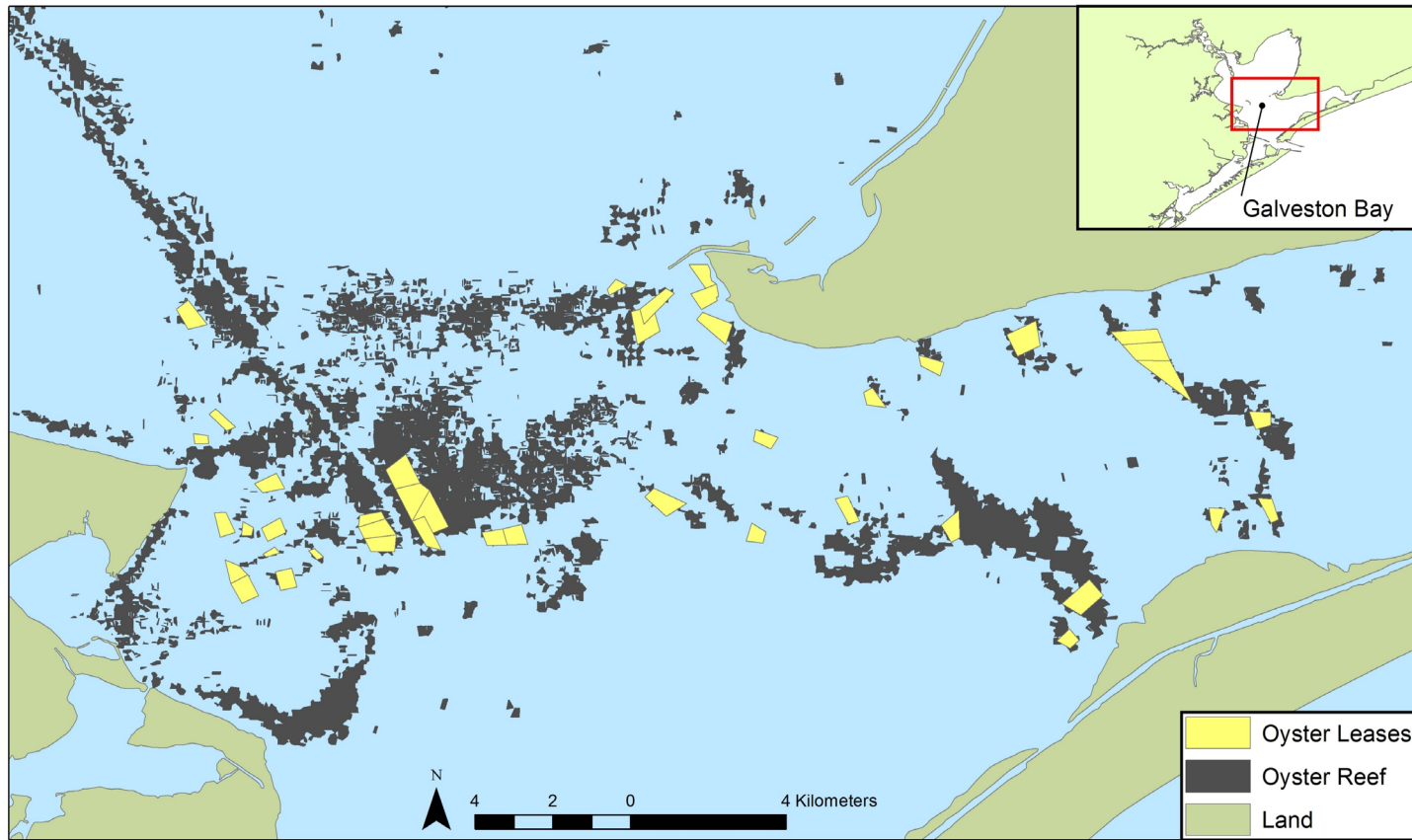
## Texas Statewide Commercial Harvest



- Private Harvest
  - ~25% of Statewide
  - ~40% of Galveston Bay

# Public Reefs vs. Private Reefs





## Certificates of Location (a.k.a. Leases)

- SB 1032 just passed
- Removed the requirement for COL renewal to depend on “the need for depuration of polluted oysters”
- New COL for restoration purposes
  - May have different fees, approval requirements, lease terms, renewal procedures, maximum acreage, and siting and marking requirements than commercial COLs
- TPW Commission
  - Encourage private harvest to reduce pressure on public reefs
- Anticipated that COL:
  - May expand in Galveston Bay
  - May expand to other bay systems

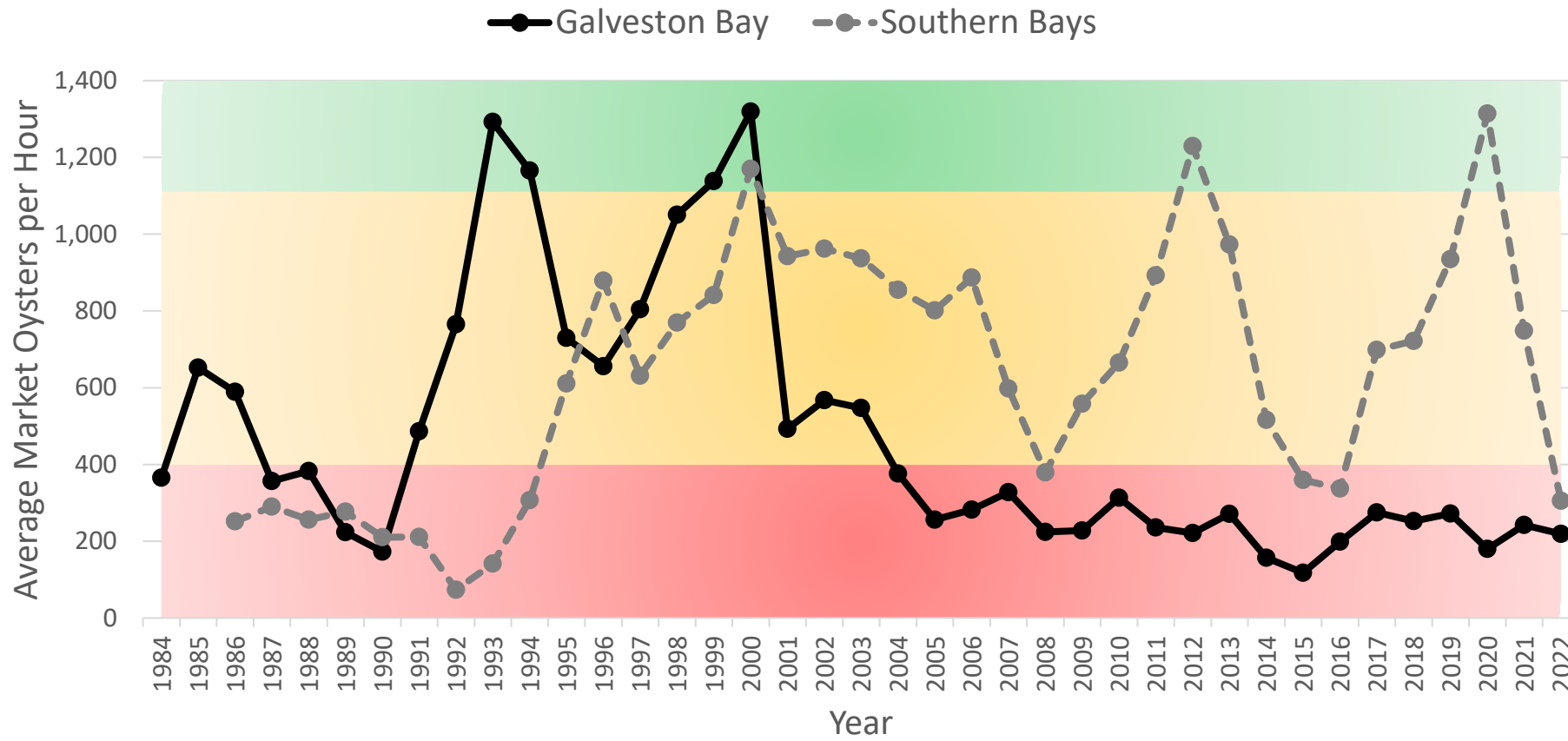
# TPWD Oyster Dredge Sampling

- Routine Monitoring
  - Monthly random sampling
  - 20-30 per bay system
  - Not enough to manage by harvest area
  - Targets both productive and degraded areas
- Targeted Oyster Sampling
  - Targets more productive areas that could be fished
  - More intensive sampling per harvest area
  - Up to ~160 per bay system
  - Pre-season and as needed
  - Triggered by:
    - Industry reports
    - Undersized oyster citations
    - Routine samples
    - Heavy harvest pressure
    - Samples nearing threshold



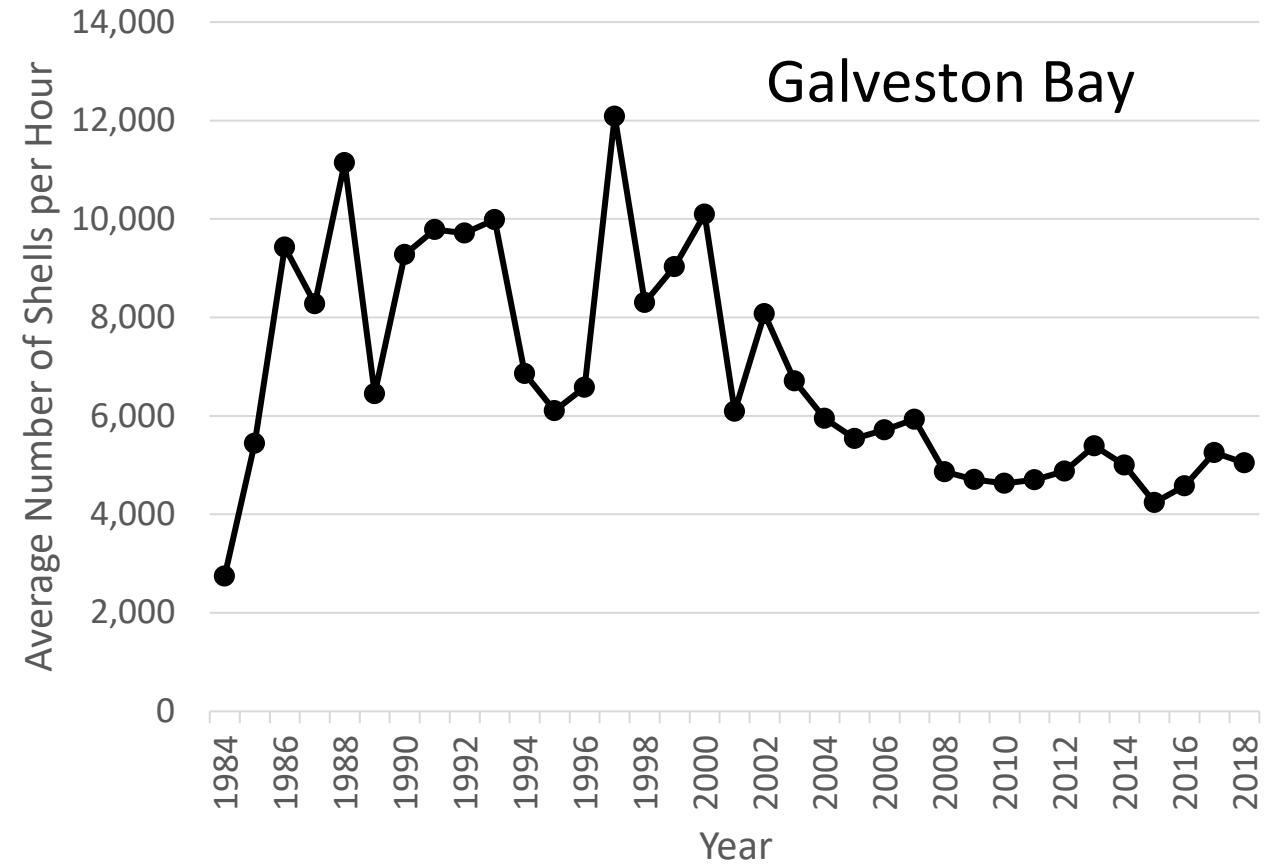


# Market Oyster Abundance $\geq 76$ mm (3 in)



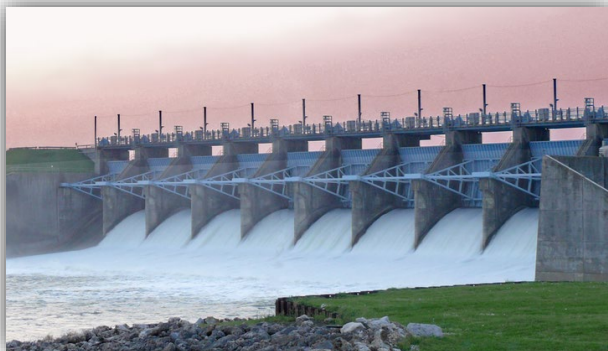


# Available Substrate on Public Reefs





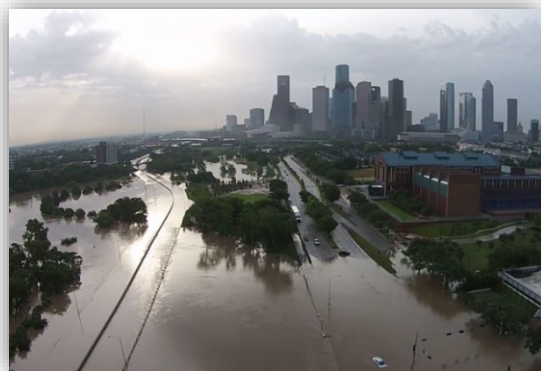
Fishing



Reduced freshwater inflow



Drought



Flooding

## Why the decline?



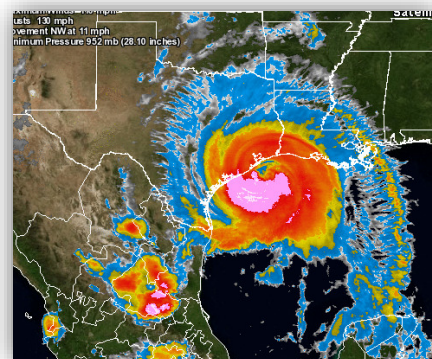
Predators



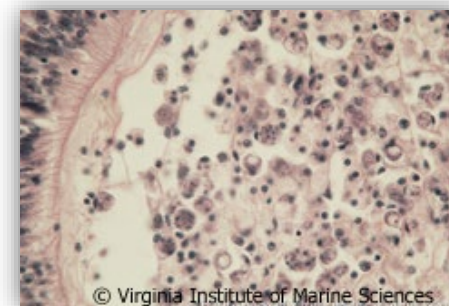
Habitat Destruction



High Demand



Sedimentation



Disease



# Restoration

- Previously no regular funding source for cultch planting
- Relied on donations, grants, and disaster relief
- 2017 – Regular contributions from oyster dealers
  - Dealers must plant cultch = 30% of volume of oysters purchased or pay a fee





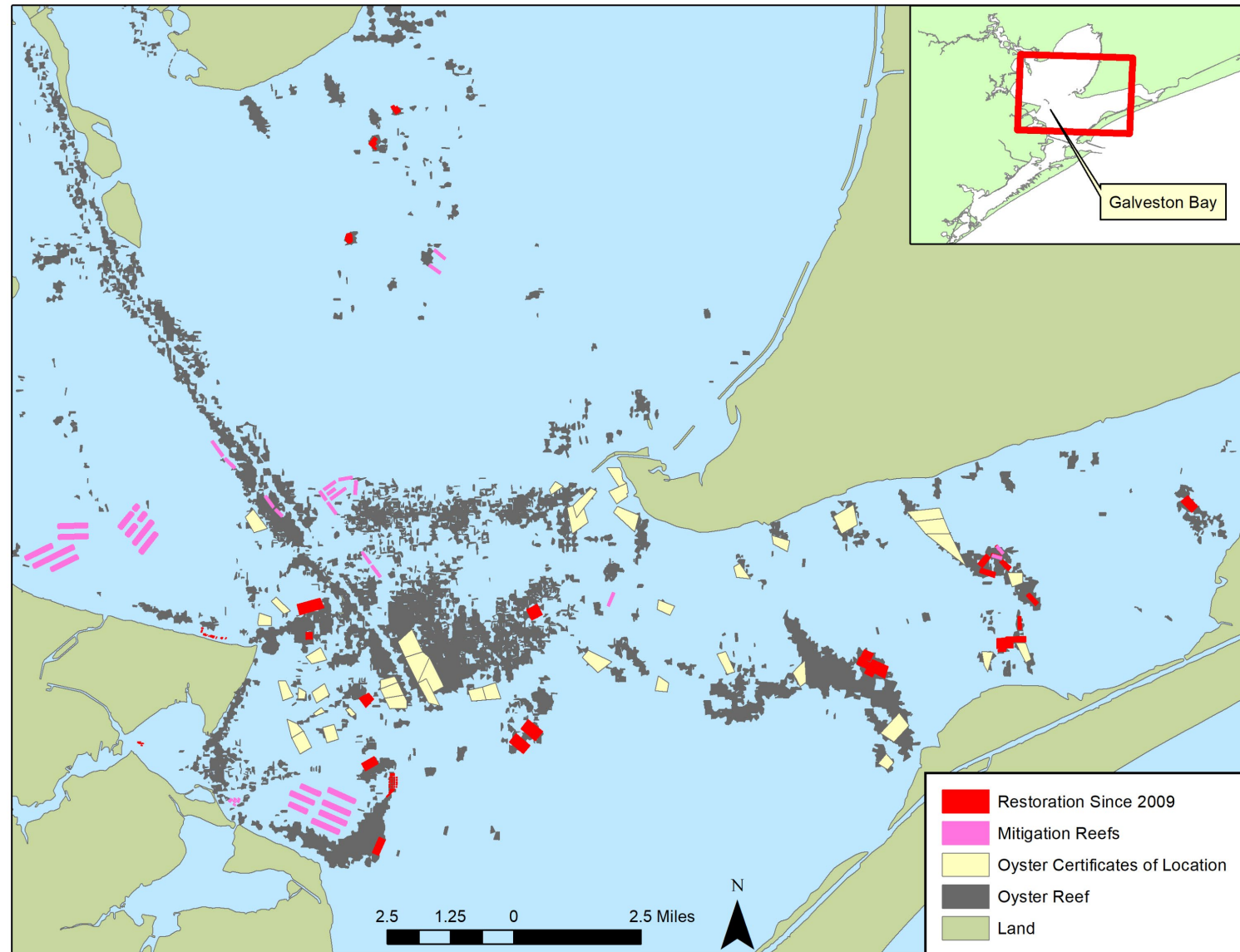
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<u>Year</u>	<b>Cultch (Yards<sup>3</sup>)</b>			<b>Acres</b>		
	<u>Galveston</u>	<u>Matagorda</u>	<u>Total Cultch</u>	<u>Galveston</u>	<u>Matagorda</u>	<u>Total Acres</u>
2018	1,985.2	4,605.3	<b>6,590.5</b>	2.5	5.7	<b>8.2</b>
2019	7,413.3	2,292.0	<b>9,705.3</b>	9.2	2.8	<b>12.0</b>
2020	3,220.0	-	<b>3,220.0</b>	4.0	-	<b>4.0</b>
2021	14,673.8	1,476.0	<b>16,149.8</b>	18.2	1.8	<b>20.0</b>
2022	7,084.4	640.5	<b>7,724.9</b>	8.8	0.8	<b>9.6</b>
<b>Totals:</b>	<b>34,376.7</b>	<b>9,013.8</b>	<b>43,390.4</b>	<b>42.7</b>	<b>11.2</b>	<b>53.8</b>

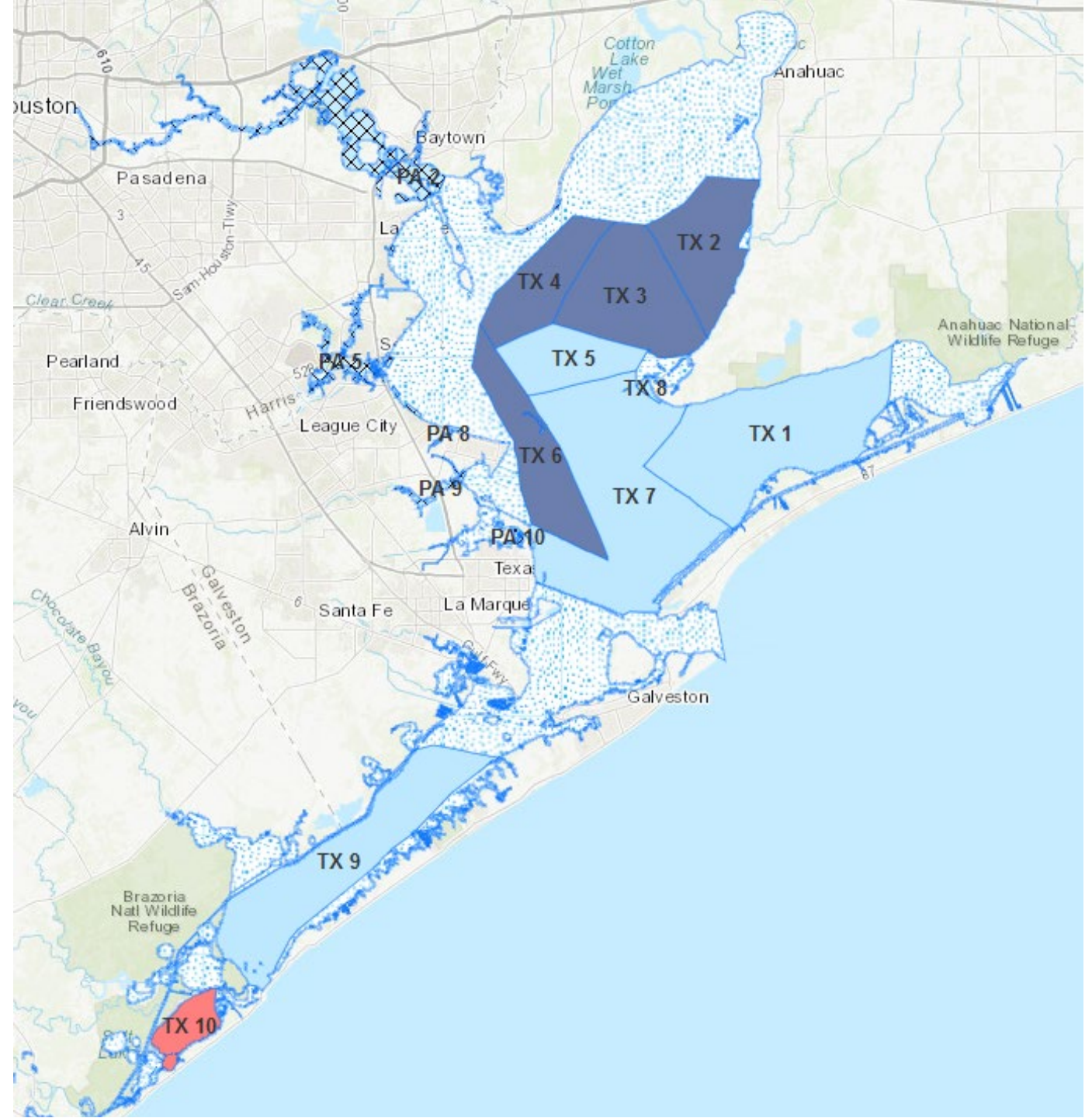
# Restoration

- 1947 – Present
  - >1,900 acres
- Since 2009
  - >600 acres
- Additional mitigation reefs
  - ~480 acres
- Most of restoration in Galveston Bay



# Area Management



















- TDSHS shellfish harvest areas
  - Closures based on public health
- TPWD started implementing area closures in 2014
  - Closures based on percent undersized oysters








# Area Management

- TDSHS shellfish harvest areas
  - Closures based on public health
- TPWD started implementing area closures in 2014
  - Closures based on percent undersized oysters
- Traffic Light Precautionary Approach in 2015
  - Closures based on abundance and percent undersized

Lights		Rules	
Abundance	% Undersize	Initial Closure	Reopen
		Open	Open
		Open	Open
		Open	Open
		Open	Closed
		Open	Closed
		Closed	Closed
		Closed	Closed
		Closed	Closed
		Closed	Closed

# Current Management

- 2020 simplified to looking at just abundance of market-size oysters

Lights	Rules	
Abundance	Initial Closure	Reopen
	Open	Open
	Open	Closed
	Closed	Closed

# Current Management

- 2020 simplified to looking at just abundance of market-size oysters
- In last two years, not many areas opened, and boats are forced into small areas



**TEXAS**  
Health and Human  
Services

Texas Department of State  
Health Services

Status of Shellfish Harvesting Areas  
on January 29, 2023

Harvest Area	Public Harvest Area Status	Private Oyster Area Status	Reason for Status
TX 1	Closed	Open	TPWD Action
TX 2	Closed	n/a	TPWD Action; Rainfall
TX 3	Closed	n/a	TPWD Action; Rainfall
TX 4	Closed	n/a	TPWD Action; Rainfall
TX 5	Closed	n/a	TPWD Action
TX 6	Closed	Closed	TPWD Action; Rainfall
TX 7	Closed	Open	TPWD Action
TX 8	Closed	Closed	Sample Results
TX 9	Closed	n/a	TPWD Action
TX 11	Open	n/a	n/a
TX 12	Closed	n/a	TPWD Action
TX 13	Closed	n/a	TPWD Action
TX 14	Closed	Open	TPWD Action
TX 15	Closed	n/a	TPWD Action
TX 16	Closed	n/a	TPWD Action
TX 18	Closed	n/a	TPWD Action
TX 19	Closed	n/a	Water Release
TX 20	Closed	n/a	Water Release
TX 21	Closed	n/a	TPWD Action
TX 24	Closed	n/a	TPWD Action
TX 25	Closed	n/a	TPWD Action
TX 26	Closed	n/a	TPWD Action
TX 27	Closed	n/a	TPWD Action
TX 28	Closed	n/a	TPWD Action
TX 29	Open	n/a	n/a
TX 29 Carlos Bay	Closed	n/a	TPWD Action
TX 30	Closed	n/a	TPWD Action
TX 32	Closed	Open	TPWD Action
TX 33	Open	n/a	n/a
TX 34	Open	n/a	n/a

n/a = not applicable







## Summary of Recent Regulations

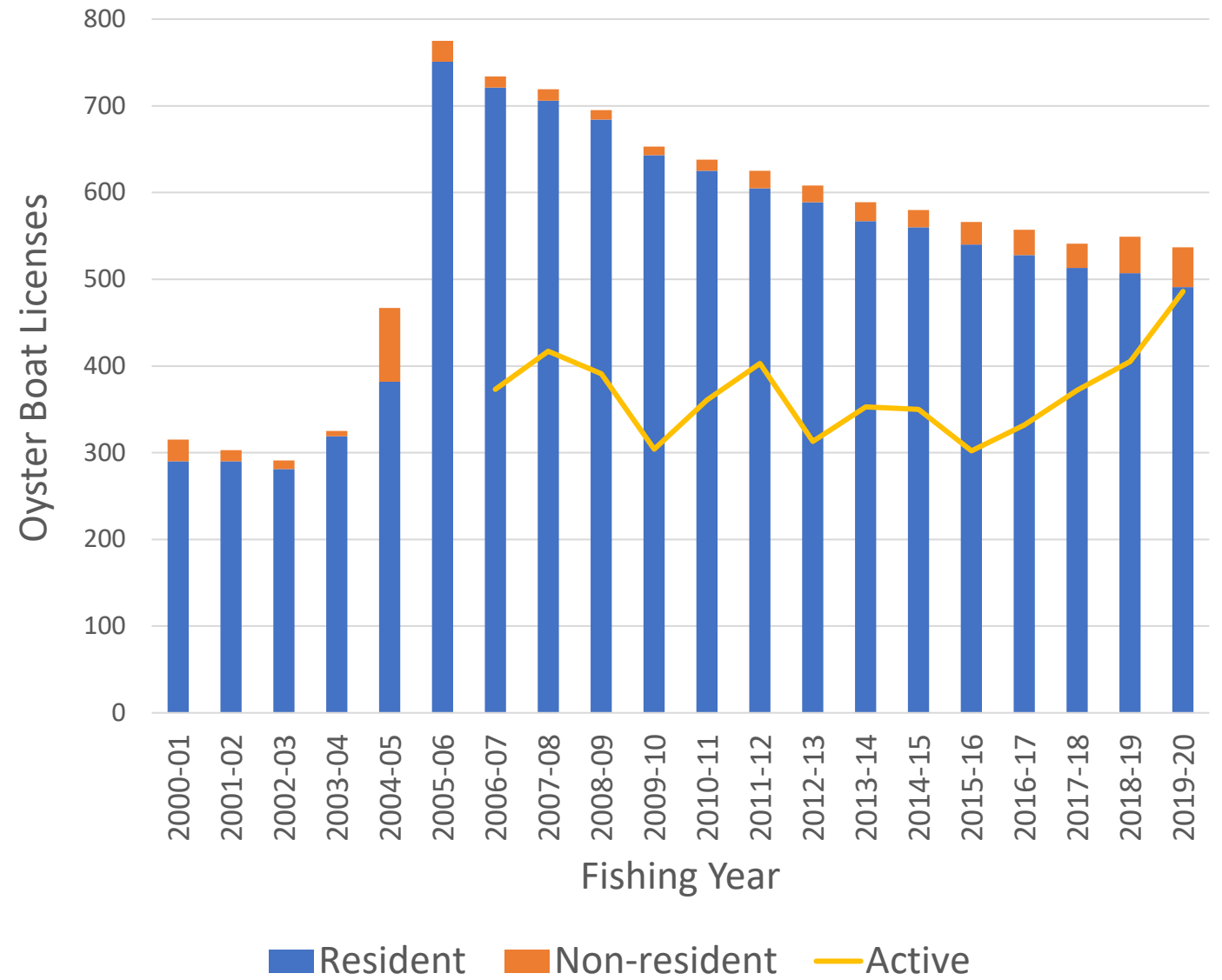
- Closed several environmentally sensitive bays (including Christmas Bay)
- Closed 300 ft from shore
- No fishing on Saturday or Sunday
- Reduce sack limit to 30
- Additional license requirements for deckhands and those harvesting by hand
- Authority to implement a Vessel Monitoring System



## Summary of Recent Regulations (cont'd)

- 15 → 5% undersized tolerance
- Increased penalties for undersized oysters including the shell
  - Fines, license suspensions, and jail time
  - For both fishermen and dealers
  - Those who possess a cargo of undersized oysters to return oysters to the bed from which they were taken
- Dealers must plant cultch = 30% of volume of oysters purchased or pay a fee
- Established license buyback

Too Much  
Fishing  
Pressure









# Mariculture

- Separate from Certificate of Location
- Off-bottom operations
  - Examples:
    - Adjustable Long lines
    - Floating cages
    - Upwellers
- First farms in 2021
- Started harvesting 2022



# Mariculture

- Separate from Certificate of Location
- Off-bottom operations
  - Examples:
    - Adjustable Long lines
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- First farms in 2021
- Started harvesting 2022
- Currently permitted:
  - 7 Grow-out facilities (2 in Galveston Bay)
    - 6 in progress
  - 2 Nursery-Hatchery facilities
    - 2 in progress (1 in Galveston Bay)







# Achieving Sustainable Harvest

- Mapping Reef
- Restoration (TPWD and oyster industry)
- Restoration and Regulatory Workgroups
- Currently open/close areas based on market abundance from dredge surveys
- Encourage private harvest (mariculture and Certificate of Location)
- Alternate monitoring gears (patent tongs)?
- Shell budget model?
  - Provides estimate of sustainable harvest based on cultch availability
  - Data needs:
    - Density estimates (Oysters/m<sup>2</sup>)
    - Mapping data
  - Implementation needs:
    - Way of projecting when an area reaches quota
    - More frequent reporting
- Other?





Questions?

